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PLANTAE NOVAE AFRICANAE.

“Ex Africa semper aliquid novi.”—*Pliny*.

SERIES XXIV.

By

MISS L. CHIPPINDALL, PROFESSOR R. H. COMPTON, DR. R. A. DYER,
MR. M. R. HENDERSON, MISS P. KIES, MISS F. M. LEIGHTON, MISS
G. J. LEWIS AND MISS I. C. VERDOORN.

Agapanthus patens Leighton. (Liliaceae).

Planta alt. 60—90 cm. *Folia* 7—11, decidua, glauca, lat. 10—20 mm., long. 25—40 cm., in apicem acutum vel subacutum angustata, basi attenuata. *Pedunculus* erectus; *spathae* obtusae; *pedicelli* 25—30, patentes, long. 2—3 cm. *Perianthium* caeruleum, vittis saturatoribus, intus albidum, long. 20—25 mm., tubo long. 6—8 mm., segmentis patentibus demum reflexis, apice obtuso, exterioribus long. 14—17 mm., lat. 6—8 mm., interioribus long. 13—16 mm., lat. 6—9 mm. *Filamenta* exserta, declinata, perianthio breviora. *Ovarium* oblongum long. 5—7 mm., stylo long. 9—11 mm.

Plants 60—90 cm. high, sometimes more in cultivation. *Leaves* 7—11 in each shoot produced from the rhizome, glaucous, deciduous, 25—40 cm. long, 10—20 mm. broad, tapering a little to the base and to the acute or subacute apex. *Inflorescence* 25—30-flowered but sometimes more in cultivation, buds erect, pedicels of open flowers spreading. *Perianth* sky-blue, whitish on the inside with a deeper blue median stripe; seg-

ments spreading widely and finally reflexing a little, apex obtuse often emarginate in the three inner segments. *Stamens* declinate, shorter than the perianth. *Ovary* oblong slightly pointed at the apex but becoming more or less rounded as the fruit develops. *Capsule* triquetrous with black winged seeds. *Fl.* Jan.-Feb.

Hab. Orange Free State. Ladybrand Div.: Clocolan, *Miss A. F. Joubert*, Nat. Bot. Gdns. 1959/30 (*Type*, in Bolus Herb. and Herb. Nat. Bot. Gdns). Harrismith Div.: Platberg, *Putterill*, Nat. Herb., Pretoria 27351. Without locality *T. Cooper* 3270. Basutoland. Mamathus, *A. Jacot Guillarmod*, Nat. Herb., Pretoria 27350. Leribe, *A. Dieterlen* 385. Transvaal, Rhebokkop, Rosendal, *Goossens* 1890; Heidelberg, *Leendertz* 1065.



FIG. 1. 1. *Agapanthus patens*. 2. *A. gracilis*. 3. *A. campanulatus*. All nat. size.

Forma β .

A typica differt, foliis angustioribus, glaucioribus, pedicellis brevioribus, ovario apice truncato.

Hab. Orange Free State. Ficksburg, *Fawkes* 75 (Nat. Bot. Gdns. 164/37). Natal, Estcourt, *Carnegie*, Nat. Bot. Gdns. 939/34. Bergville, *M. C. Gillett* 1189. Cape Province, Griqualand East, *Tyson* 1767.

This species is very closely related to *A. campanulatus* Leighton, but differs in the following respects:—

- (1) The perianth tube in *A. patens* is shorter in relation to the total length of the perianth.
- (2) The perianth segments spread from the base.

Agapanthus gracilis, Leighton.

Planta alt. ad 70 cm. *Folia* 7—9, linearia, subacuta, glabra, canaliculata, per anthesin marcescentia, long. ad 60 cm., lat. ad 25 mm. *Pedunculus* gracilis, erectus; *pedicelli* 20—40, adscendentes vel patentes, long. 3—6 cm. *Perianthium* caeruleum, long. 30—40 mm., tubo long. 10—14 mm., segmentis leviter patentibus, apice recurvato, lat. exterioribus 6—7 mm., interioribus 7—8 mm. *Stamina* subdeclinata, perianthio 6—8 mm. breviora. *Ovarium* ovoideum long. 7—10 mm., stylo brevi demum staminis equilongo.

Plants 50—70 cm. high, sometimes more in cultivation. *Leaves* 7—9; linear, canaliculate, longer and narrower in the wild state than in cultivation. *Peduncle* and *pedicels* slender, pedicels spreading or ascending, often with a slight downward curve. *Flowers* sky-blue, segments spreading but not widely, recurved a little at the apex. *Stamens* shorter than the perianth segments. *Ovary* ovoid, style short but as long as the stamens when mature. *Fl.* Jan.-Feb.

Hab. Natal, Zululand. Open grassland on top of the Ubombo—Ingwavuma Range. *Gerstner* 3189 (Nat. Bot. Gdns. 186/39) (*Type*, in Bolus Herb. and Herb. Nat. Bot. Gdns.).

This species has affinities with *A. campanulatus*, *A. patens* and *A. orientalis*. It differs from *A. campanulatus* in having a relatively shorter perianth tube and narrower perianth segments which spread more widely and recurve at the apex. From *A. patens* it can be distinguished by the narrower perianth segments which spread slightly in the upper half. *A. gracilis* has deciduous leaves and is a more slender plant than *A. orientalis*, with fewer flowers in the inflorescence.

Alloeochaete namuliensis L. Chippindall. (Gramineae-Aveneae).

Sp. nov., ab *A. andongensi* (Rendle) Hubbard, panicula late ovata, spiculis minoribus distinguenda.

Gramen perenne caespitosum, ad 60 cm. altum. *Culmi* erecti, simplices, glabri, laeves. *Foliorum vaginæ* basales basi dense lanatae, in fibras demum fissae; ligulae ad seriem ciliorum minorum redactae; laminae lineares, usque ad 45 cm. longae et 6 mm. latae, planae, siccitate involutae. *Panicula* late ovata, erecta, 13—14.5 cm. longa, 10.5—11.5 cm. lata; rhachis minute scaberula; rami fasciculati, patentes, sparse divisi, inferiores usque ad 11 cm. longi; pedicelli laeves, inaequales. *Spiculae* lanceolatae vel lanceolato-oblongae, 6—7 mm. longae (aristis exclusis).

Glumae inaequales, mucronatae vel breviter aristatae ; inferior lanceolato-oblonga vel lanceolato-ovata, 3 mm. longa, 3—sub-5-nervis ; superior elliptico-oblonga, 4 mm. longa, 3- vel 5-nervis. *Anthoecia* 4—6, e glumis exserta ; infimum ovario imperfecto (?), cetera fertilia. *Lemmata* ovata vel lanceolato-ovata, 5-nervia ; infimum 4 mm. longum, glabrum, minute vel distincte bifidum, inter lobos arista plerumque recta, plus raro geniculata, praeditum ; callus glaber ; supera 4—4.5 mm. longa, fasciculis pilorum alborum prope margines praedita, biloba, lobis acutis setiferis, circiter 2 mm. longis ; arista 5.5—8.5 mm. longa, columna contorta, applanata ; callus pilis albis dense barbatus. *Palea* (anthoeciorum omnium) oblanceolato-cuneata, lemmati plus minusve subaequalis vel leviter longior. *Lodiculae* truncatae, glabrae. *Antherae* 2—3.3 mm. longae. *Caryopsis* (immatura) 2 mm. longa, lanceolato-elliptica.

A densely tufted perennial with intravaginal innovations. *Culms* erect, 60 cm. high, slender, simple, few-noded, glabrous, smooth. *Leaf-sheaths* striate, densely woolly at the base where they eventually break up into fibres, otherwise glabrous except at the shortly bearded mouth, coriaceous and shining, tightly clasping the culm ; ligule a densely ciliate rim ; blades linear from an equally wide or slightly narrower base, up to 45 cm. long and 6 mm. wide, tapering to a hard, pungent point, at first flat, then involute, closely striate with an indistinct midrib, very smooth, glabrous except for a densely pubescent region above the ligule and a few fine, scattered hairs on the upper surface, eventually disarticulating from the sheaths. *Panicle* broadly ovate, erect, stiff, long exserted from the uppermost sheath, 13—14.5 cm. long, 10.5—11.5 cm. wide ; rhachis minutely scaberulous ; branches fascicled, spreading, filiform, minutely scaberulous, unequal, sparingly divided, the lowest up to 11 cm. long ; pedicels smooth, unequal, the lateral up to 4 mm. long. *Spikelets* lanceolate, broadly lanceolate-oblong or oblong, straw-coloured, 6—7 mm. long (excluding the awns), laterally compressed. *Glumes* unequal to slightly unequal, acute, membranous, pubescent to almost glabrous, minutely scaberulous on the margins upwards, mucronate or shortly awned, awn scaberulous ; lower lanceolate-oblong or lanceolate-ovate, 3 mm. long, 3-nerved with the lateral nerves usually anastomosing or connected by cross venules to the prominent midnerve near the tip, sometimes with an additional short nerve near each margin ; upper narrowly lanceolate to elliptic-oblong or lanceolate-oblong, 4 mm. long, prominently 3-nerved, the lateral connected to the midnerve by cross venules in the upper half, sometimes with 2 additional short side-nerves, the awn from a minutely bifid apex. *Florets* 4—6,

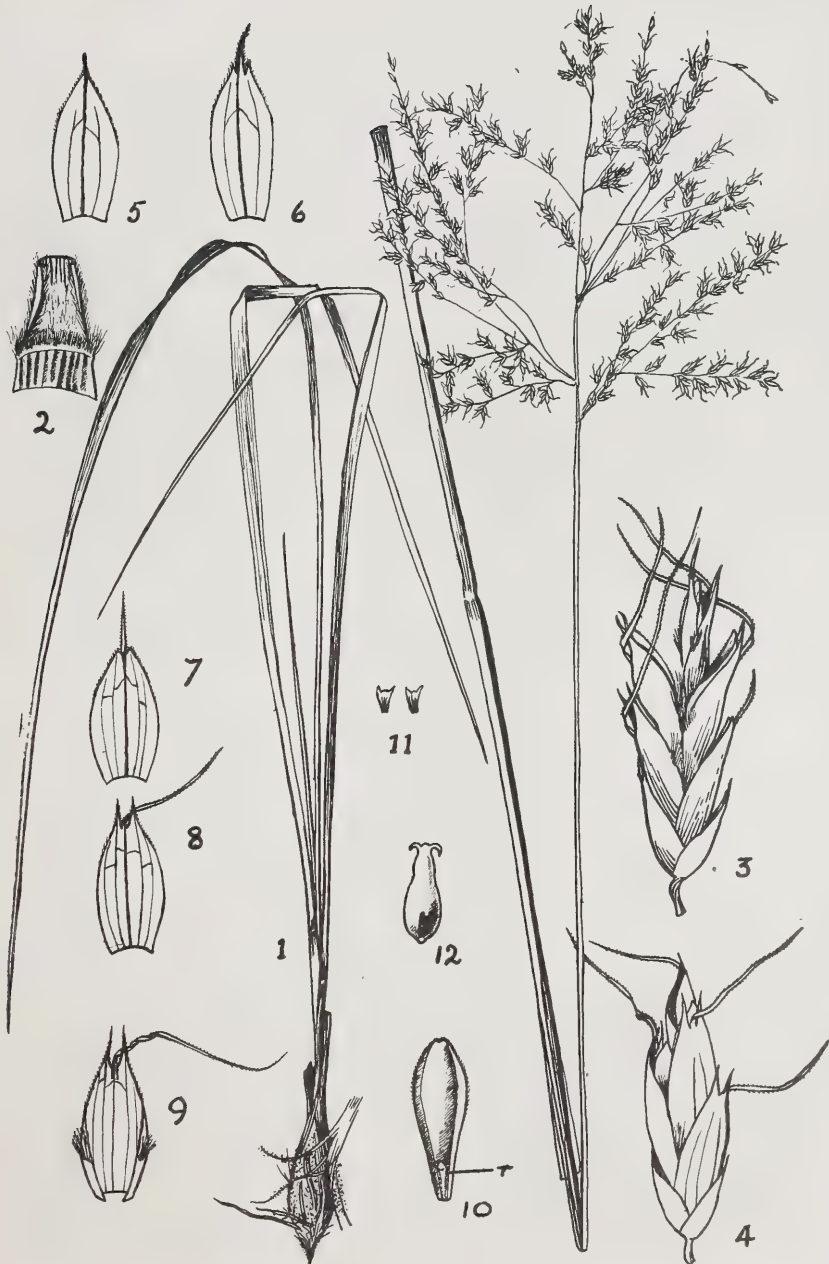


FIG. 2. *Alloeochaete namuliensis*. 1. Plant. $\times \frac{1}{2}$. 2. Ligule. $\times 2$. 3. Spikelet with lowest valve bearing a short, straight awn, $\times 7$. 4. Spikelet with lowest valve bearing a long, twisted awn, $\times 7$. 5. Lower glume, $\times 8$. 6. Upper glume, $\times 8$. 7 and 8. Lowest valves showing different structures of awn, $\times 5$. 9. Upper valve, $\times 5$. 10. Valvule, showing internode of rhachilla (r), $\times 5$. 11. Lodicules from fertile floret, $\times 5$. 12. Grain (immature), $\times 10$. Del. Rhona Brown.

exserted from the glumes; lowest containing an imperfect (?) or rudimentary ovary, the others bisexual, sometimes with an additional 1 or 2 rudimentary florets at the top of the spikelet. *Lowest valve* broadly lanceolate to ovate, 4 mm. long, 5-nerved with 2 or 4 connecting cross venules in the upper half, glabrous, minutely to distinctly bilobed with the lobes sometimes bristle-like, and a usually short, straight, more rarely geniculate awn from between them; callus glabrous. *Upper valves* 4—4.5 mm. long, 5-nerved with connecting cross venules in the upper half, glabrous except for a tuft of white hairs near each margin in the lowest third and sometimes a few long, sub-marginal hairs below the tufts, bifid with the lobes about 2 mm. long, acute and setigerous, and a scabrid awn from the sinus; awn geniculate, the 4.5—7 mm. long bristle bent at a right angle to the column, which is 1—1.5 mm. long, has 1—4 twists and is flattened; callus short, obtuse, densely bearded with white hairs. *Valvule* (of all florets) oblanceolate, from nearly as long as to slightly longer than the valve, sharply 2-keeled, keels ciliolate upwards. *Lodicules* truncate, glabrous. *Anthers* 2—3.3 mm. long. *Grain* (immature) 2 mm. long, lanceolate-elliptic.

Hab. Portuguese East Africa. Quelimane district: Namuli Mountains Gúrùe, in the earthy substratum on granite near Namuli summit, at 1,500 m., 9th April, 1943, *A. R. da Tôrre* 5146.

The inclusion of this interesting grass from the Namuli Mountains in *Alloeochoaete* C. E. Hubbard in Hook. Ic. Pl. XXXV, t. 3418 (1940) necessitates a slight amendment to the diagnosis of the genus, in so far as the lowest floret is concerned. In Dr. Tôrre's plant the apex and awn of this floret vary considerably. On the same panicle, there are spikelets whose lowest valves have (i) a short, straight awn from a sub-entire or minutely bilobed apex, (ii) a straight awn as long as the valve from a distinctly bilobed apex with setigerous lobes, and (iii) a geniculate awn from a bilobed apex, the structure similar to that of the upper valves, except that the column of the awn does not bear as many twists. It is not clear whether the lowest floret contains a male flower, for there are very few anthers left in either of the two inflorescences, and the majority of spikelets contain only ovaries. In the spikelets examined, the lowest floret always contained an ovary slightly to much smaller than those found in the upper florets, and in one instance the anthers were present as well.

It seems likely that this floret would be imperfect and not develop a fertile grain, because the first articulation of the rachilla occurs above it. The spikelets are fragile, and, while each of the perfect upper florets

disarticulates very readily, the glumes and the lowest floret are persistent. Furthermore, the lowest valve differs from the others in not having tufts of hairs near the margins and in having a glabrous callus, these being the only constant morphological differences from the upper valves.

The character of the lowest floret in *Alloochaete* seems to indicate the initial stages of reduction in the lower part of the spikelet found in those genera of the *Aveneae* which are more advanced than the primitive *Danthonia*.

The following additions (in italics) to the comparison between *Alloochaete* and *Danthonia*, as given by Mr. Hubbard, l.c., are suggested :—

“Alloochaete C. E. Hubbard. Genus novum, *Danthoniae* DC.

affine, sed glumis mucronatis vel breviter aristatis, anthoeciis glumas multo superantibus, rachilla inter glumam superiorem et anthoecium infimum continua, antheocio infimo masculo ovario imperfecto, lemmate infimo glabro apice subintegro vel minute bilobo arista brevi recta terminali, *vel breviter bilobo arista geniculata* praedito, lodiculis glabris divergens”.

In the generic diagnosis, the lowest floret is described thus : “ infimum masculum ovario vestigiali ”, and, since further material is required to ascertain the exact functioning of this floret in the new species, no change can be made at present. The description of the lowest valve, however, might be amended thus :—

“ Lemma infimum elliptico-ovatum vel ellipticum (explanatum), apice subintegrum, minute *vel breviter* bilobum, arista recta brevi *vel geniculata et anthoeciorum fertilium aristis similis* terminatum, firme membranaceum vel scarioso-chartaceum, glabrum, 5-nerve”.

The resemblance of *A. namuliensis* to the only other described species, *A. andongensis* (Rendle) Hubbard, is very marked. I have not seen a specimen of this plant, but from the description and plate (Hubbard l.c.), it is clear that, apart from the variations in the lowest floret mentioned above, the only important differences are in the shape of the panicle and the size of the spikelets.

The panicle of *A. andongensis* was described originally (*Danthonia andongensis* Rendle in Cat. Afr. Pl. Welw. ii, 212 (1899) as “ linear at first, becoming irregularly rhomboidal . . . about 6 in. long by $1\frac{1}{2}$ broad when mature ”, and Mr. Hubbard states that the outline of the erect panicle is “ either linear, lanceolate, or narrowly elliptic, contracted, 10—20 cm. long, up to 4 cm. wide ”. The panicle of *A. namuliensis*, on the other hand, is broadly ovate and not contracted, with a width of from 10.5 to 11.5 cm. The spikelets do not exceed 7 mm. in length, whereas in *A. andongensis* they are stated to “ reach $\frac{1}{2}$ in.” and to be “ 12—15 mm. long, excluding the awns ”.

The pubescence of the glumes is apparently more marked than it is in *A. andongensis*, whose glumes are stated to be "minutely pubescent above the middle", while they vary from having a distinct pubescence over the whole surface to being nearly glabrous in *A. namuliensis*. Other points of variation are the presence of delicate cross venules in the upper half of the glumes and valves, and the inconstancy of the nervation in the glumes.



FIG. 3. *Barosma insignis*. 1. Portion of flowering shoot $\times 1$. 2. Axillary inflorescence $\times 1$. 3. Longitudinal section of flower $\times 2$. 4. Bract and bracteoles at base of pedicel $\times 2$. 5. Sepal $\times 2$. 6. Petal $\times 2$. 7, 8. Stamen $\times 2$. 9. Staminode $\times 2$. 10. Gynaecium $\times 2$. 11. Transverse section of half-ripe fruit $\times 2$. 12. Ripe fruit $\times 2$. 13. Seed $\times 2$. 14. Seed ejector $\times 2$. (Compton 12494, flowering material: Compton 16750, fruit and seed.) Del. M. Walgate and W. F. Barker.

***Barosma insignis*, Compton. (Rutaceae-Diosmeae).**

Frutex erectus, foliosus, ubique glaber, aromaticus. *Folia* numerosa, alternata, sub-erecta, imbricata, breviter petiolata, elliptico-lanceolata, acuta, integra, glandulis in marginibus et alibi immersis, infra venis 3—5 prominentibus. *Inflorescentiae* axillares, 1—3-floratae. *Bractae* lanceolatae. *Bracteolae* minutae, basales. *Calycis segmentae* late ovatae, acutae. *Petala* lanceolata, breviter unguiculata, alba, paucis glandulis coloratis immersis. *Filamenta* et *staminodia* angustata. *Capsula* breviter cornuta, dense glandulosa. *Semina* atrata.

A robust erect shrub reaching 150 cm. in height, copiously leafy, glabrous in all parts, the leaves with a mentholic odour. *Stem* and branches erect, sub-virgate, brown, ridged beneath the petioles, with conspicuous leaf-scars. *Leaves* alternate, numerous, sub-erect, overlapping and hiding the stem; petiole brown, 2—3 mm. long; lamina bright green, elliptic-lanceolate, acute, the margin entire, slightly thickened and containing numerous immersed oil-glands; 3—5 principal veins prominent on the under surface, especially when dry; small immersed translucent oil-glands scattered throughout lamina. *Flowers* axillary, solitary or in groups of 2—3, the subtending leaves erecto-patent. *Peduncle* 2—3 mm. long. *Bracts* lanceolate, c. 7 mm. long, 2 mm. wide. *Bracteoles* small, scarious, basal. *Pedicels* c. 8 mm. long. *Calyx* deeply 5-partite, segments broadly ovate, acute, greenish, glandular, 3 mm. long, 2 mm. wide. *Petals* lanceolate, very shortly clawed, c. 11 mm. long, 4 mm. wide, white with a few tinted immersed oil-glands. *Filaments* c. 7 mm. long, tapering gradually from base to apex, at first deflexed, later straightening, the anther 2 mm. long. *Staminodes* 4 mm. long, tapering, tipped with a vestigial anther. *Capsule* c. 8 mm. long, lobed, shortly cornute, densely studded with oil-glands. *Seeds* black, shining, 5 mm. long.

Hab. Cape Province. Ceres Division: Elands Kloof, rocky banks of stream, 1000 m. alt., in full flower 17 November, 1941, *Compton* 1494 (*type*, in Herb. Nat. Bot. Gardens); Wabooms River, below Elands Kloof, among rocks near water, 950 m. alt., fruiting 18 December, 1944, *Compton* 16750. Living plants at Kirstenbosch, 331/44.

This new *Barosma* is well distinguished from all other species by the larger size of its leaves and flowers, as well as by details. The plant when well grown is several feet high and is striking and handsome on account of its dense clothing of dark green leaves and the white flowers prettily exposed amongst them. It is strange that it should have hitherto escaped the notice of collectors. I first saw it in November, 1941, flowering at the foot of a rocky cliff, facing south, at the margin of the stream which flows out of Elands Kloof to join the Wabooms River (one of the headwaters of the Doorn River) at the northern end of the Cold Bokkeveld. On a later visit in September, 1944, the whole area including these plants was found to have been destroyed by fire: but other plants were discovered along the rocky banks of the Wabooms River below the entry of the Elands Kloof stream. Finally, in December, 1944, I revisited this spot accompanied by Mr. F. W. Thorns, Curator of Kirstenbosch, who succeeded in safely transplanting living specimens to the Gardens with

the help of a Wardian case: fruiting specimens and seeds were also obtained.

The oil-glands in the leaves are rather smaller than in the commercial species of *Barosma* ("Buchu"). The leaves when crushed have a strong pleasant odour suggesting that of peppermint, and persisting for several years in the dried material. When sufficient plants have been grown in cultivation it will be interesting to distil the oil and investigate its properties.

***Bobartia lilacina*, Lewis.** (Iridaceae-Aristeae.) (§ *Ramosae*).

Rhizoma lignosum, circa 1 cm. diam. *Planta* 50—70 cm. alta. *Caulis* gracilis, teres, basin versus 2·5—4 mm. diam., sicut rami gracillimi sub nodis viscosus, ramo infimo 20—35 cm. longo. *Folia* basalia 6—11, equitantia, ensiformia, erecta, 15—30 cm. longa, 0·4—1·1 cm. lata, nervis numerosis inconspicuis. *Inflorescentia* laxè paniculata rhipidiis terminalibus 3—4-floris. *Spatha exterior* glabra, herbacea, obtusa, 6 mm. longa; *interior* exteriori similis sed 1·7 cm. longa. *Perianthium* pallide lilacinum, segmentis oblongis, subacutis, 1·5—1·7 cm. longis, 6—7 mm. latis. *Stamina* filamentis 6 mm. longis, antheris 5—6 mm. longis. *Stylus* 1 mm. longus, ramis 7 mm. longis, stigmatibus minutis. *Capsula* globosa, glabra, 5—6 mm. diam.

Rhizome woody, about 1 cm. diam., surrounded by fibrous leaf bases, with 1 or 2 contractile roots near the apex, shortly below the base of the leaves. *Plant* 50—70 cm. high; stem slender, terete, 2·5—4 mm. diam. near the base, branched; branches very slender, the lowest 20—35 cm. long, arising half to two-thirds of the way up the stem; stem and branches with a viscid patch 1—3 cm. long below each node. *Leaves* 6—11 basal, equitant, ensiform, erect, 15—30 cm. long, 0·4—1·1 cm. broad, firm but not thickened, with several inconspicuous veins; cauline leaves subtending the branches, the lowest 4—13 cm. long, like the basal leaves, the upper 1 cm. long or less, bract-like. *Inflorescence* paniculate, a 3—4-flowered rhipidium terminating each peduncle. *Spathes* glabrous, obtuse, the outer 6 mm. long, the inner 1·7 cm. long. *Flowers* pale mauve; perianth-segments patent, oblong, subacute, 1·5—1·7 cm. long, 6—7 mm. broad. *Filaments* 6 mm. long; anthers 5—6 mm. long. *Style* 1 mm. long; branches 7 mm. long; stigmas minute. *Capsule* globose, glabrous, 5—6 mm. diam.

Hab. Cape Province: Caledon Div.: Villiersdorp side of French Hoek Pass, eastern aspect on lower rocky slope of Gem Peak, *Esterhuysen* 11441 (*type*, in S.A. Museum Herb.); cultivated plants, Nat. Bot. Gardens, Kirstenbosch, 94/45.

Flowering season January—February.

Dr. H. Weimarck, in Botaniska Notiser 1939, p. 616, has published the results of his investigations of the types of inflorescences in *Aristea* and some allied genera. These are very enlightening and lead to a clearer understanding of some of the complicated types of inflorescences which frequently occur in the Iridaceae. Of the genus *Bobartia* Dr. Weimarck has made the following remarks :—

“ In the *Bobartia* species the flowers and inflorescences are contracted into very dense, head-like compounds. Of this genus I was in a position to investigate only a few specimens belonging to *B. spathacea* (*B. indica* L.). Here the ‘ head ’ is composed of a great number of flowers, which are, partly at least, arranged according to the principle binate flowers or binate rhipidia.” This description can be applied to the majority of species hitherto described, with the exception of those in which the inflorescence is reduced to two or three rhipidia or, as in *B. filiformis*, to a single rhipidium.

In *B. gladiata* var. *major* the flattened stem bears at its apex two or three very short branches on which the rhipidia are so closely imbricated that they almost entirely conceal the branches. In some of the other species with compound inflorescences the branches are so much contracted that, at a cursory glance, the inflorescence has almost the appearance of a capitulum, e.g. *B. orientalis* and, frequently, *B. indica*. The species to which I gave the name *B. paniculata* (Journ. S.A. Bot. VII, 50, 1941) was the first in which a distinct elongation of the branches was observed. The one to three slender branches are borne at the apex of the long, more or less flattened stem, and each is usually dichotomously branched, always viscid below the nodes, each separate branchlet or peduncle terminating in a single rhipidium. In all other respects it is like the previously described species and forms a definite link between them and the species described and figured here.

B. lilacina differs from *B. paniculata* in having more numerous branches which arise at intervals from the main stem, the lowest arising half to two-thirds of the way up the stem. If one imagined the internodes on the main stem reduced one would arrive at an inflorescence as in *B. paniculata* and, if one further imagined the branches contracted, one would arrive at a compact, head-like inflorescence as in the typical *Bobartia*.

In specimens of true *Bobartia* examined (as opposed to *B. paniculata* and *B. lilacina*) the rhipidia are usually subtended by one to three very closely imbricating sterile bracts. It is possible that these are the remains of the bract-like leaves which, in *B. paniculata* and *B. lilacina*, subtend the branches and peduncles. If this is the case it seems to indicate that these two species are more primitive types from which the true *Bobartia*

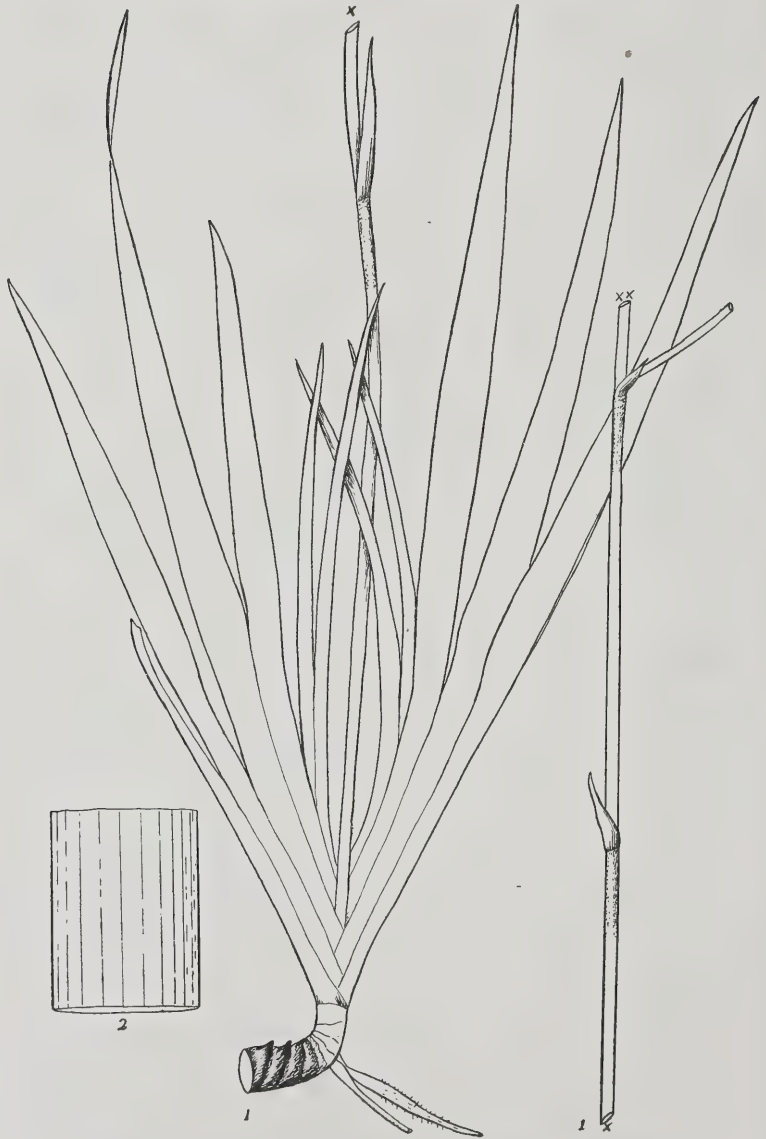


FIG. 4. *Bobartia lilacina*. 1. Lower part of plant $\times 2/3$. 2. Portion of leaf $\times 2$. (Esterhuysen 11441.) Del. G. J. Lewis.



FIG. 5. *Bobartia lilacina*. 1. Upper part of plant $\times 2/3$. 2. Outer spathe $\times 2$. 3. Inner spathe $\times 2$. 4. Flower $\times 1$. 5. Androecium and gynaecium, immature, $\times 3$. 6. Gynaecium, immature, $\times 3$. 7. Capsule $\times 2$. 8. Seed $\times 5$. (Esterhuysen 11441.) Del. G. J. Lewis.

is derived. To arrive at any conclusion, however, a complete morphological and anatomical study of the genus is essential and, as this has not been done, I am not in a position to discuss the subject. I propose to place *B. paniculata* and *B. lilacina* in a separate section, *Ramosae*, under *Bobartia*.

The viscid patch below the nodes is an interesting feature in these two species. I do not know the origin of the viscid substance, whether secreted by the epidermal cells or not, nor its chemical composition, but it is of interest to note that in some species of *Moraea* (*M. viscaria*, *M. bituminosa*, *M. cborata*), *Homeria simulans* and in some tropical species of *Ferraria*, a similar viscid patch is found beneath the nodes. The pale mauve flowers of *B. lilacina* are very unusual in this genus which has characteristically yellow flowers.

Thanks are due to Miss Esterhuysen for the trouble she took to obtain fresh material of this very fugitive and interesting species. The flowers open at about 1 p.m. and remain open for four or five hours only.

***Brachystelma gracillimum*, R. A. Dyer. (Asclepiadeae-Ceropegieae).**

Sp. nov. affinis *B. Galpinii* N.E. Br. habitu et floribus gracillimis longioribusque facile distinguitur.

Herba tuberosa perennis usque 45 cm. alta, ramosa caulibus gracilibus internodiis basin versus usque 10 cm. longis. *Folia* opposita, breviter petiolata, ovata vel ovato-cordata, obtusa usque 1.5 cm. longa, 7.5 mm. lata, supra glabra vel margine proximo et infra breviter pubescentia, pilis ad apicem curvatis, petiolo plus minusve 3 mm. longo leviter canaliculato infra breviter pubescente. *Flores* axillares nodiis solitarii; pedicelli c. 2 mm. longi. *Calycis segmenta* c. 3 mm. longa, lineari-lanceolata, intra basi glandulis ovatis ornata. *Corolla* alabastro basi leviter inflata 2.5–3 mm. diam. superne gracillima, usque 4.5 mm. longa, minus 1 mm. diam., pubescens; lobi usque 4.2 cm. longi filiformes inferne liberi superne coherentes apice connati. *Coronae exterioris lobi* 5, bilobulati, lobulis 1 mm. longis subcapitatis, pilis curvatis paucis indutis; *coronae interioris lobi* erecti, 2.25 mm. longi, suboblongi.

Hab. Transvaal. Marico district; Lekkerlach, north of the town of Marico, Dec. 1940, Louw 811, in National Herbarium, Pretoria, 27255. (*type*); Jan. 1941, Louw 811a in National Herbarium, Pretoria, 27256 (fruit).

Perennial herb with a tuberous rootstock; the tuber 3–5 cm. in diameter; annual stems about 45 cm. tall, with a tough fibrous bark; slender, about 3 mm. thick at the base, branched above: but not more



FIG. 6. *Brachystelma gracillimum*. 1. Top of stem (slightly reduced). 2. Staminal column with slender outer corona lobules and inner oblong corona lobes overtopping the column.

than one lateral branch from each node and alternating, internodes up to 10 cm. long towards the base of the plant gradually shortened to 2—3 cm. towards the apex. *Leaves* opposite, petiolate; *petiole* about 3 mm. long, slightly canaliculate, glabrous along the upper surface, shortly pubescent for the rest; *blade* ovate or ovate-cordate, obtuse, flat or folded upwards (in dried material) up to 1.5 cm. long, 0.75 cm. broad, glabrous on the upper surface except round the margin, shortly pubescent below, all the hairs curved towards the apex. *Flowers* single at the nodes, subtended by a minute bract; pedicel about 2 mm. long; *Calyx segments* linear-lanceolate, about 3 mm. long, with minute ovate appendages within the sinuses. *Corolla* up to 4.5 cm. long, when in bud slightly inflated at the base, 2.5—3 mm. diam., the beak very slender, not more than 1 mm. diam. pubescent with short hairs directed to the apex, the open corolla with the united basal portion flattened, 3 mm. diam. (without any tubular structure as in the bud), *lobes* filiform, 0.5 mm. thick, becoming separate for about 1 cm. of their length forming a narrow cage-like structure (the sinuses forming recurved points as in *Huernia*) cohering above into a very slender tubular structure, united only at the tips. *Outer corona* of ten lobes in 5 pairs, each lobule 1 mm. long, slender, curved and slightly capitate, furnished with a few curved hairs; *inner corona lobes* oblong, 2.25 mm. long, erect and overtopping the staminal column. *Follicles* linear, up to about 9 cm. long, 4 mm. thick, smooth, mottled, diverging at 180° or recurved.

This species appears to be most nearly related to *Brachystelma Galpinii* (Schlechter) N.E. Br., but differs considerably from it in its taller and stiffer habit, and particularly in the much longer solitary and very slender flowers. It was first collected in flower in December, 1940, by Mr. W. J. Louw, who added a fruiting specimen the following month from the same tuber. The plant was found in the Marico district in sandy soil in mixed tree veld. It was apparently rare, which may be explained by the fact that the tubers, like those of many other species of the family, are eaten by natives.

***Ceropegia Smithii* Henderson (Asclepiadaceae-Ceropegieae).**

Herba reptans, caules glabri, internodiis c. 3.5—9 cm. longis. *Folia* crassa, obovata, oblongo-obovata, elliptica, vel oblongo-elliptica, apice retusa vel abrupte apiculata, ad c. 3 cm. longa et 2.5 cm. lata; petiolus ad c. 10 mm. longus. *Cymae* axillares, 1- vel pauciflorae, pedicellis c. 1—1.5 cm. longis, glabris. *Sepala* anguste oblongo-lanceolata, acuta, c. 6—7 mm. longa. *Corollae* tubus c. 3.5 cm. longus, extus glaber, plus minusve rectus, basi oblongo-inflatus c. 5—6 mm. diam., c. 1.3 cm. longus, ad medium contractus, fauce infundibuliforme, c. 1.5 cm. diam.;

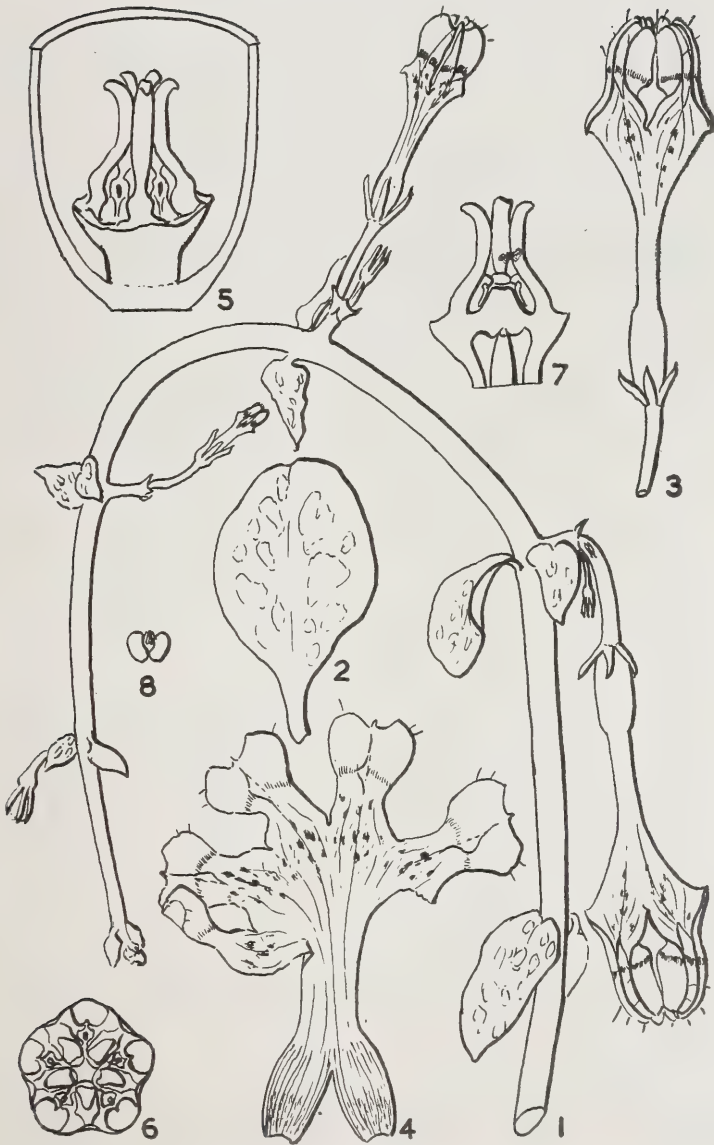


FIG. 7. *Ceropogia Smithii* Henderson. 1. Upper portion of branch $\times 1$. 2. Leaf, from above $\times 1$. 3. Flower, side view $\times 1$. 4. Corolla opened out and flattened, inner view $\times 1$. 5. Corona, in a portion of the base of the corolla tube $\times 6$. 6. Corona, from above $\times 6$. 7. Longitudinal section of corona $\times 6$. 8. Pollinia $\times 12$. (Smith 5318, Nat. Bot. Gdns., 544/44.) Del. M. Courtenay-Latimer and W. F. Barker

lobi c. 1.5 cm. longi, ut complanati oblongo-cordati sed replicati, apice retusi, cohaerentes, pilis erectis sparsis ornati; *corona* exterior cupuliformis, 5-lobata, lobis lineari-oblongis c. 3 cm. longis, apice recurvatis; interior 5-lobata, lobis lineari-spathulatis.

Stem creeping, rooting at nodes, green, terete, minutely white dotted, c. 5 mm. diam., internodes 3.5—9 cm. long. *Leaves* rigidly fleshy, obovate or obovate oblong, or broadly elliptic or elliptic oblong, apex retuse or abruptly and minutely apiculate, base narrowed to a broad petiole up to c. 10 mm. long, blade up to c. 3 cm. long and 2.5 cm. broad, margins undulate, dark green above with paler venation, lower surface paler than upper with only the pale midrib visible. *Cymes* lateral, one or few flowered, peduncle stout, glabrous; pedicels c. 1—1.5 cm. long, glabrous. *Sepals* narrowly oblong lanceolate acute, glabrous, channelled above, c. 6—7 mm. long. *Corolla* glabrous outside, c. 5.5 cm. long, more or less straight, an oblong inflated portion at base c. 1.3 cm. long and 5—6 mm. diam. with close raised longitudinal ribs interiorly and sparsely white hairy on basal half within, above this contracted into a narrow tube c. 1.3 cm. long, then gradually expanded into a funnel-shaped mouth c. 1.5 cm. diam.; interior of tube from upper half of basal inflated portion to base of funnel-shaped mouth glabrous, above this with sparse stiff pale hairs with swollen bases, extending to base of lobes; lobes c. 1.5 cm. long, when spread out oblong obcordate from a broad base, apex broadly retuse with a small apiculus and bearing a few stiff hairs, but the lobes replicate so that the two halves are bent back parallel and very close together, forming a narrow pouch, connivent at tips but their midribs closely approximate for more than half their length, the sinus between the base of the lobes often with a short point. *Outer corona* broadly and shallowly cup-shaped with 5 linear oblong lobes c. 3 mm. long, curving inwards over staminal column and then outwards, their tips often revolute; *inner corona* of 5 much shorter linear spathulate lobes incumbent on staminal column and a little longer than it, adnate at their bases to the outer lobes.

Hab. Cape Province. East London Division: Kwelegha River, about 30 miles north-east of East London, on slopes facing south to south-east, under tall bush, *G. G. Smith* 5318 (*Type*, in Herb. Nat. Bot. Gardens and cult., 544/44).

Described from dried material, a small living plant, flowers and flower buds preserved in alcohol and a drawing by Miss M. Courtenay-Latimer.

Miss Courtenay-Latimer's coloured drawing shows the corolla to be green or yellowish green at base, the expanded mouth with rather large irregular light to dark red spots, veined purplish within; lobes green, purplish red at base.

Homeria bulbillifera, Lewis. (Iridaceae-Moraeae).

Cormus globosus, 1·2—2 cm. diam., tunicis e fibris crassis, lignosis, nigris, compositis. *Caulis* 30—45 cm. altus, simplex vel ramosus. *Folia* caulina, infimum lineare, conduplicatum, 50—75 cm. longum, 4—7 mm. latum, nervis conspicuis, superiora 3—5, breviter, vaginantia, 3—4 cm. longa; *bulbillae* parvae in axillis foliorum omnium dispositae. *Spathae* herbaceae, acuminatae, cuspidatae, exterior 3 cm. longa, interior circa 6 cm. longa. *Perianthium* pallide flavum segmentis basin versus viridimaculatis, obtusis, 2·3—3·5 cm. longis, exterioribus oblongis, 1·1—1·6 cm. latis, interioribus angustioribus, 0·7—1·2 cm. latis. *Stamina* filamentis omnino conjunctis, 7 mm. longis, antheris 5 mm. longis. *Stylus* ramis 5—6 mm. longis, breviter bifidis, truncatis. *Ovarium* cylindricum, circa 1 cm. longum.

Corm globose, 1·2—2 cm. diam.; tunics of coarse, black, woody, spine-tipped fibres. *Stem* 30—45 cm. high, simple or branched. *Leaves* cauline, the lowest linear, arising 1—4 cm. above the base of the stem, conduplicate, conspicuously veined, 50—75 cm. long, 4—7 mm. broad; 3—5 upper leaves short, sheathing, 3—4 cm. long; the base of each leaf sheath is more or less swollen owing to the presence of several small bulbils which burst through the sheath as they increase in size. *Spathes* herbaceous, acuminate, cuspidate, the outer 3 cm. long, the inner about 6 cm. long. *Flowers* pale yellow, spotted with green at the centre, the inner perianth segments sometimes suffused with pink; perianth segments curved up to form a small, narrow cup, then patent, obtuse, the outer oblong, 2·3—3·5 cm. long, 1·1—1·6 cm. broad, the inner narrower, 2·2—3·2 cm. long, 0·7—1·2 cm. broad. *Filaments* completely fused, 7 mm. long; *anthers* 5 mm. long, as long as or shortly overtopping the style branches. *Style* branches about 5 mm. long, shortly bifid, truncate, sometimes with minute incurved crests; *ovary* cylindrical, about 1 cm. long.

Hab. Cape Province: Caledon Division: Riviera, growing in grass and on sand dunes, *F. Purcell* in S.A. Museum 54696 (Type)!; Gans Bay, *Gillett* 4322! Bredasdorp Division: The Poort, about 8 miles from Bredasdorp along the Elim Road, *Lewis* in Bolus Herb. 21231!; Cape Agulhas, *T. T. Barnard* in Bolus Herb. 22949!; Struys Bay,

Leipoldt 3569 ! Cape Division : upper slopes of Karbonkelberg, above Hout Bay Harbour, *Leighton* 419, 681 ; (in S.A. Museum and Bolus Herb.) ! *Compton* 16358 (in Nat. Bot. Gdns. Herb.) ! ; Ronde Vlei, L. Bolus in Bolus Herb. 22944 !

Flowering season, September to November.

This species can easily be recognised by the presence of bulbils in the axils of all the leaves, a rather striking feature which is found in a few other genera of the Iridaceae, notably *Watsonia bulbillifera* and *Micranthus junceus*. Ripe capsules, 1.5—2.0 cm. long, were present on the *Leipoldt* plant, but it is doubtful whether they always develop.

The plants found on the Karbonkelberg, Cape Peninsula (*Leighton* 419, 681, *Compton* 16358), are more robust than those from the Caledon and Bredasdorp Divisions. The stem is 45—70 cm. high, always branched, and the lowest leaf, which arises 5—8 cm. above the base of the stem is up to 1 m. long and 5—8 mm. broad, the upper cauline leaves 5—7 cm. long. The flowers are cream-coloured, shading to pink with a yellow star-shaped mark at the centre. There is no doubt, however, that this is merely a larger form of *H. bulbillifera*.

***Pentzia calcarea* Kies.** (Compositae-Anthemideae.)

Sp. nov. *P. incanae* affinis, sed plantis argenteis laxe virgatis, petiolis longioribus gracilioribusque differt.

Suffrutex argenteus, humilis, plus minus 30 cm. altus, 30 cm. diametro, basin versus lignosus, laxe ramosus plerumque stoloniferus. *Caules* basi ramosi ; rami aliquantum graciles, erecti vel nonnunquam arcuati ; juvenilibus argenteis appressis pubescentibus. *Folia* aliquantum flaccida, patula, demum reflexa, alterna nonnunquam fasciculata, appresse argentea pubescentia, 3- vel 5-pinnatilobata, basi in petiolum gracile 6—20 mm. longum attenuata, summis integris linearibus. *Capitula* terminalia, solitaria, 6—10 mm. diam., breve pedunculata ; pedunculi nudi vel paucibus foliis linearibus. *Involucri bractae* 3-seriatae, exteriores apice membranaceae, interiores marginibus membranaceis. *Receptaculum* globosum minute punctatum. *Flores* disci numerosi. *Corollae tubus* superne infundibuliformis, 5-lobatus, aurantiacus, glaber, parce glandulosus. *Antherae* apice appendiculatae. *Achaenia* 5-costata ob-pyramidalia ; *pappus* membranaceus, obliquus, 5-lobatus.

Shrublet usually under 30 cm. high and 30 cm. diameter, virgately branched from a woody base. *Stems* erect, slender, not much branched except at base, sometimes bending outwards or downwards and forming anchoring roots where they touch the soil ; young shoots covered with

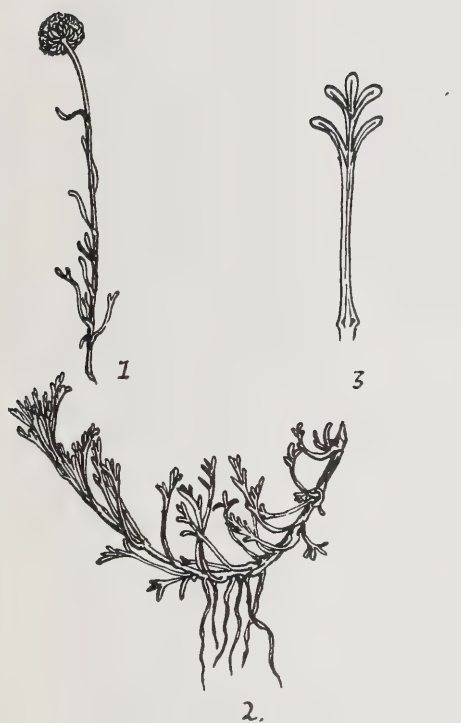


FIG. 8. *Pentzia calcarea*. 1. Twig with terminal inflorescence. 2. Anchoring shoot. 3. Leaf. 4. Young flower. 5. Open flower. 6. Anthers. 7. Gynaecium. 4—7, much enlarged. Del. P. Kies.



FIG. 9. *Pentzia viridis*. 1. Twig with inflorescence. 2. Twig, enlarged. 3. Leaf, enlarged. 4. Young flower. 5. Open flower. 6. Gynaecium. 7. Anthers. 4—7, much enlarged. Del. P. Kies.

adpressed silvery pubescence, and older stems with longitudinally cracked bark. *Leaves* soft and flabby in texture, erect spreading when young, bent back when wilted, adpressed silvery pubescent, usually solitary, alternate, sometimes fascicled, leaf base slightly broader than the petiole; petiole 5 to 20 mm. long, slender; lamina imparipinnately lobed, with 1—2 pairs of linear, obtuse lobes. *Bracts* on peduncle linear, entire, or absent. *Heads* terminal, solitary, 6—10 mm. in diameter, golden yellow. *Involucre* in 3 series; outer bracts with membranous tips, inner with membranous margins also. *Receptacle* globose, minutely pitted. *Disc-flowers* numerous. *Corolla* tubular, narrowly funnel-shaped in upper half, 5-lobed, bearing a few scattered glands outside. *Anthers* with small apical appendages. *Ovary* 5-veined, narrowly inverted-pyramidal. *Pappus* an oblique 5-parted crown-like membrane.

Hab. Cape Province: Prieska Div. *Bryant J.* 95; 1060 (13)B; Hope-town Div. *Schweickerdt* 1185; *Smith* 2809A; Herbert Div. *Phillips* 3477; *Pole Evans* 2; Honeynestkloof, *Wilman* in McGregor Museum, Kimberley Div. *Acocks* in Nat. Herb. 23406; *Esterhuysen* 933; *Levey* in Herb. Galpin 6348, 5749. Barkly West Div. *Adams* in Albany Mus. Herb. No. 148, *Esterhuysen* 1240, *Marloth* 948. Kuruman Div. *Dyer and Verdoorn* 1765; *Pole Evans* 2053, Taungs Div. *Parker* in McGregor Museum, no number; Vryburg Div. *Burt-Davy* 13925; Armoedsvlakte, *Corwood* in National Herbarium, no number. *Foley* in Nat. Herb. No. 2792, 2771; *Mogg* 8222.

Orange Free State: Fauresmith Div.; *Henrici* 2433, 2686, 2691; *Kies* 310 (Type) *Pole Evans* 1627; *Smith* 3921, 4003, 5298, 5321, 5367, 5376, 5399, 5446; *Verdoorn* 938, 1020, 1302, 1303, 1330. Edenburg Div. *Potts* 2904. Bloemfontein Div. *Burt-Davy* 12326. Boshof Div. *Burt-Davy*, 11330, 12396, 9422, 12481.

Transvaal: Bloemhof Div. *Burt-Davy* 5527, 9422, 12481; *Theron* 430.

P. calcarea differs from *P. incana* in the lax, virgate habit, slender long-petioled leaves and silvery appearance. It is restricted to kalk soils, and the old prospectors knew it to indicate soil where diamonds were likely to be found. This plant is not such a good fodder bush as *P. incana* O.K. but "is liked by goats and cattle", although "it imparts an unpleasant flavour to their milk", being strongly aromatic. It is said to cause "shivers" in horses when, after doing heavy work, they eat the wilted or dry bush. The flowers appear in late summer, and they have a strong honey odour.

Pentzia viridis, Kies. (Compositae-Anthemideae).

Sp. nov. affinis *P. globosae*, sed plantis viridibus, segmentis foliorum acutis, rigidis divaricatis differt. *Suffrutex* minus 30 cm. altus, 30 cm. diametro, basin versus lignosus, multe ramosus, ramulis viridibus erectis. *Folia* viridia, 3—7 mm. longa, alterna, nonnunquam conferta, punctata, plus minusve viscosa, aromatica, 2 basi divisa, pinnatisecta, segmentis 7—10, 3 mm. longis, rigidis, divaricatis, teretibus, minute apiculatis. *Capitula* terminalia, solitaria, 5—7 mm. diam., globosa, aurantiaca; pedunculi breves, 5—20 mm. longi, nudi. *Involucri* bracteae 3—4-seriatae, anguste lanceolatae, subacutae, apicibus membranaceis; corollae tubus inferne cylindricus, parce glandulosus, superne urceolatus, glaber; lobi reflexi. *Antherae* apice appendiculatae, appendiculis deltoideis. *Achaenia* 5-costata, ob-pyramidalia, pappo obliquo margine lacerato coronata.

Description: Dwarf shrub, usually under 30 cm. high and 30 cm. in diameter, much branched from a short woody stem, forming a round bush, once reported that the branches formed anchoring roots in the soil, but usually the branches are erect; young shoots bright green, minutely pubescent, later covered by a greyish bark. *Leaves* bright green 3—7 mm. long, alternate, sessile, persistent, glandular-punctate, viscous, strongly aromatic, either crowded, with leaf lobes short and close together, resembling a fascicle of linear leaves, or leaves laxly spaced, and the lobes far apart; 3 to 5 pairs of pinnate lobes, crowded towards leaf base, smaller lobes arising on leaf rachis behind these, and all spread in various planes; lobes up to 3 mm. long, stiff, terete, with a terminal minute bristle. *Capitula* terminal and solitary on leafy branchlets 5—7 cm. diameter; rounded, deep golden-yellow. *Peduncles* 0.5—2 cm. long. *Involucral bracts* in 3—4 series, narrowly lanceolate, subacute with membranous tips. *Corolla* narrowly tubular at base with a few scattered glands, urceolate in the upper half, with reflexing lobes. *Anthers* with small deltoid appendage at apex. *Ovary* 5-nerved, inverted-pyramidal. *Pappus* oblique coroniform somewhat lacerated at the margin.

This species is near *Pentzia globosa*, but differs in the bright green colour of the stems and leaves, and in the acute terete, stiffly spreading leaf lobes, arising in more than one plane from the leaf rachis. It seems to grow chiefly on vlei soil or damp sand near dams and rivers. It is not palatable to stock, although it is sometimes eaten when no other fodder plants are available. The flowers appear in summer and autumn and have a sweet honey scent.

Hab. Cape Province. Prieska Div., only a few specimens found in sand brought down by the Orange River, *Bryant* 1079. Barkly West Div., Banks of Vaal R., *Esterhuysen* 927. Kimberley Div., *Esterhuysen* 924, 925, *Flanagan* 1435, *Hafstrom* 786, *Mogg* 15117, *Pole Evans* 11616,

Smith 2350. Fauresmith Div., *Henrici* 2432, 2698, 2414, *Kies* 311 (*Type*), *Pole Evans* 1626; *Bakbank*, *Rabie*, *Smith* 3914, 4130, 4182, *Verdoorn* 915, 937, 942, 1361, 1362, 1570.

Plectranthus Behrii Compton. (Labiatae-Ocimoideae).

Frutex erectus, sub-herbaceus, aromaticus. *Caules* minute puberuli. *Folia* supra viridia, infra purpurea, late ovata, acuta, base sub-truncata, marginibus crenato-dentatis, utrinque puberula, venis infra prominentibus, supra impressis, petiolo canaliculato, hirsuto. *Inflorescentiae* terminales axillaresque, cymis multis, plus minusve 3-floris, breviter pedunculatis. *Bractae* sub-scariosae, acuminatae. *Pedicelli* tenues, hirsuti. *Calyx* coloratus, lobo dorsale lato, reflexo, lobis lateralibus angustis, semi-deflexis, lobis ventralibus angustis, rectis, omnibus ciliatis. *Corolla* breviter obtuse calcarata, glabra, labio dorsale erecto, orbiculare, lobis lateralibus obtusis, inflexis, labio ventrale reflexo. *Genitalia* longe exserta, filamentis demum reflexis.

An erect soft-wooded shrub, 60—100 cm. high or more, with shorter lateral branches. *Stem* quadrangular with rounded angles and deeply furrowed sides, finely puberulous, the internodes up to 5 cm. long, the leaf-bases prominent and persistent. *Leaves* herbaceous, lamina up to 7 cm. long and 5 cm. wide, green above, purple below, broadly ovate, acute at apex, sub-truncate at base, with crenate-dentate margins, translucently multipunctate, sub-rugulose, the veins prominent below and impressed above, thinly puberulous on both surfaces, petiole c. 1.0—1.5 cm. long, channeled above and at sides, hirsute on upper edges. *Inflorescences* terminal and erecto-patent in axils of upper leaves and lower bracts, up to 25 cm. long, the lateral ones shorter, bare below, with numerous moderately dense pairs of $\pm$ 3-flowered cymes above. *Bracts* sub-scarious, acuminate, up to 8 mm. long and 5 mm. wide. *Peduncles* c. 1 mm. long. *Pedicels* slender, hirsute, horizontally placed, c. 6 mm. long. *Calyx*, tube green, 1 mm. long, lobes pink, ciliate; dorsal lobe broad, reflexed, 3 mm. long, 4 mm. wide; lateral lobes 2 mm. long, subulate, half deflexed; ventral lobes 4 mm. long, subulate, directed forwards. *Corolla* mauve-pink; tube with a narrower basal portion 2 mm. long, a slightly deflexed broader distal portion up to 7 mm. long, 2.5 mm. wide, $\pm$ laterally compressed, and a blunt conical dorsal nectar-containing spur 2 mm. long; dorsal lip erect, orbicular, 8 mm. long and wide, glabrous or very minutely velvety outside, with a few spots of colour inside; lateral lobes 2 mm. wide, obtuse, inflexed across mouth of tube; ventral lobe at first erect, at right angles to tube, boat-shaped, 6 mm. long, 3 mm. deep, sharply deflexed at maturity, the margins becoming undulate. *Stamens* long-exserted, slightly curved upwards,

the longer pair 10 mm. long, the shorter pair 8 mm. long, later curved downwards and backwards. *Style* finally exserted 10 mm., with two subulate stigmas. *Fruiting calyx* retaining its colour, 10 mm. long in all, the tube strongly veined. *Nutlets* spherical, 1.5 mm. diam.



FIG. 10. *Plectranthus Behrii*. 1. Portion of plant $\times \frac{1}{2}$. 2. Part of inflorescence, nat. size. 3. Cyme $\times 2$. 4. Young flower, front view $\times 2$. 5. Young flower, side view $\times 2$. 6. Old flower, side view $\times 2$. 7. Bud, side view $\times 2$. 8. Tube, side view $\times 2$. 9. Young calyx, from above $\times 2$. 10. Old calyx, side view $\times 2$. 11. Gynaecium, side view $\times 2$. 12. Gynaecium, from above $\times 4$. 13. Nutlets, side view $\times 4$. 14. Young anther $\times 8$. 15. Young anther, front view $\times 8$. 16. Old anther, back view $\times 8$. 17. Bract $\times 2$. (Behr in Nat. Bot. Gardens 1252/31.) Del. W. F. Barker.

Hab. Cape Province. Pondoland: Lusikisiki, C. Behr in Nat. Bot. Gardens 1252/31 (*type* in Herb. Nat. Bot. Gdns.) and 1045/32.

This *Plectranthus* was sent to Kirstenbosch by Mr. Charles Behr

in 1931 and 1932 and has been cultivated there ever since. It is closely related to *P. fruticosus* L'Herit., but the stem is less hirsute, the leaves less markedly double-crenate, more rugulose and purple below, the petioles shorter, the inflorescences more ample with denser flowers; the flowers are slightly larger and of a different colour (not blue) and the stamens are longer. It is said by the collector to be somewhat infrequent in the Lusikisiki district.

It is an attractive and useful garden plant, flowering copiously and over a long period in late summer and being satisfactory in full sun or in partial shade. The colour of corolla and calyx lobes is a good pink mauve, well set off by the deep green upper leaf-surfaces.

***Salsola nigrescens*, Verdoorn. (Chenopodiaceae).**

Sp. nov. affinis *S. glabrescenti* sed plantibus minoribus siccis nigrescentibus, sepalorum in fructu alis brevioribus c. 1.5 mm. longis, differt.

Suffrutex, c. 30 cm. altus, basi robustus, lignosus, ramulis gracilibus, glabris. *Folia* carnosa, glabra, sicca nigrescentia, ovata ad lineare-lanceolata, 2—5 mm. longa, c. 1 mm. lata, canaliculata, versus apicem teretia, dorso rotundata vel inconspicue carinata, basi auriculata et calcarata, marginibus hyalinis. *Flores* axillares sessiles, 2-bracteolati; bracteolae ovatae ad ovato-orbiculatae, 2 mm. longae, 1.5 mm. latae, carnosae, cucullatae, dorso rotundatae et carinatae, apiculis carnosis et marginibus late hyalinis. *Sepala* 5, tria, 2 mm. longa, 1.5 mm. lata, duo, 2 mm. longa, 1 mm. lata, hyalina, centro triangulare viride carnosum, in fructu ala late horizontali scariosa obcuneata, circiter 1.5 mm. longa, infra medium loborum instructa. *Stamina* 5, filamentis subulatis; antherae apiculatae. *Ovarium* ovoideo-globosum in stylum bifidum attenuatum; discus patelliformis, 5-lobulatus.

Hab. Cape Province: Middelburg Div., Gill 33, Verdoorn 1425, 1466, 1485, 1493, 1603, 1738; Hanover Div., Sim in herb. Galpin 6257; De Aar Div., Moss 10692, Esterhuysen 1115; Prieska, Moss 10693, Bryant J. 218; Herbert Div., Schweickerdt 1173; Barkly West Div., Esterhuysen 1112; Kimberley Div., Esterhuysen 1116.

O.F.S.: Fauresmith Div., Koffiefontein, Burt-Davy 12402, Smith 3895, 4046, 5285, 5305 (*type*), 5307, 5355, 5363, 5519, Henrici 2413, 2425, 2457, Pole Evans 1634, Mogg 17213, 17214, Verdoorn 2202; Edenburg Div., Verdoorn 1221.

The publication of the specific name for this plant is long overdue. Farmers recognise it as being distinct from "Rivier ganna" *Salsola glabrescens* and refer to it as "Swart ganna." Dr. M. Henrici, Officer



FIG. 11. Above. *Salsola glabrescens*. (Kafferfontein). 1. Fruit. 2. Ovary. 3. Bract, side view. 4. Bracteole, side view.
Below. *Salsola nigrescens*. (Brandewynskuil). 1. Fruit. 2. Ovary. 3, 4. Bract, side and face view. 5, 6. Bracteole, side and face view. Del. P. Kies.

in Charge of the Veld Reserve, Fauresmith, too, has recognised it as a distinct species in her experimental work and used the manuscript name *S. nigrescens* in her publication "Fodder Plants of the Broken Veld." The name, which is very apt, was suggested for the species by Mr. C. A. Smith, some years ago. *S. nigrescens* is a smaller and more glabrous plant than *S. glabrescens*, which is also harder and coarser and grows up to 3 ft. tall and even taller when growing along a river.

The character of turning black when dried makes *S. nigrescens* readily distinguishable among herbarium specimens. The wings of the fruiting calyx are smaller than those of *S. glabrescens*, being usually under 2 mm. long, while in the latter they are over 2 mm. and up to 5 mm. long.

The distribution of the species is quite wide in the upper Karoo where it is found abundantly on saline soils and for this reason is particularly valuable to sheep farmers.